

SUBSTANCE OF INTERVIEW

A telephonic interview with the Examiner was held on May 15, 2009. Claims 2-6, 9-14, and 23-29 were discussed in order to receive further clarification regarding the rejections in the latest office action. EP 1,391,080 and Anderson were discussed and the difference between the slat and insert, as well as non-zero angles, elastic openings, laser beam recitation, use of the term "whereby" and "wherein," and use of the expression "via means."

REMARKS/ARGUMENTS

I. Status of Application.

a. Claim Amendments.

Claims 2-6, 9-14, and 23-29 are pending in this Application. Claims 28-29 stand rejected under 35 U.S.C. § 112, first paragraph. Claim 2-6, 9-14, and 23-29 stand rejected under 35 U.S.C. § 112, second paragraph. Claims 2-6, 9-14, and 28 are rejected under 35 U.S.C. § 103(a) as obvious over European Patent Number EP 1,391,080 ("EP '080") in view of United States Patent Number 5,167,903 to *Anderson* ("*Anderson*") (collectively, the "Cited References"). Claims 23-27 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Anderson* in view of EP '080.

Claim 2 has been cancelled and its limitations have been imported into Claim 28. Claims 3-6, 9-14, and 23-29 have been amended to eliminate "wherein" and "whereby" clauses. Claims 4, 9-10, and 25 have been amended to replace the phrase "via means which allow them to be disassembled" with "via tenons on the inserts capable of being inserted into openings within the support trough." Claims 6, 11-14, and 27 have been amended to eliminate the words "significantly" and "better" for further clarity. Support for this amendment can be found in the specification on page 7, lns. 7-9.

Claims 5-6, 11-14, and 26-27 have been amended to replace the phrases "the assembly of the lugs in the corresponding openings taking place elastically and by clipping" and "a material void over a maximum area compatible with maintaining the rigidity of the said insert" with "the assembly of the lugs in the corresponding openings taking place by clipping" and "a material void with a maximum area no greater than that which will maintain the rigidity of the said insert

spanning the area of the void” respectively, for clarity. Support for these amendments can be found in the specification on page 7, lns. 4-6 and lns. 10-11.

Claims 28-29 have been amended to clarify that the angle between the first part and the second part is oblique. Further, “a trough which contains a plurality of spaced apart inserts...” has been moved from the preamble of the claim to element “a.” The limitations contained in the “whereby” clause have been moved and incorporated into the limitations of the “second oblique part.” A description of a “third part” has also been added to Claim 28 for clarity. Support for these amendments can be found in the specification on page 5, lns. 24-27 and lns. 24-29.

Claims 3 and 24 have been amended to state “having a distance e separating the plane of the support strip and the plane of the third part, and said distance e is greater than or equal to a distance d between two juxtaposed inserts” in order to overcome an insufficient antecedent basis rejection.

No new matter is incorporated into these Claims, but rather, they are re-written to more clearly to emphasize the construction and angle of the inserts, or to comply with certain technical requirements. Specifically, each insert in the trough takes the form of a folded thin sheet-metal plate with a first part having a free upper edge, a second oblique part for deflecting a laser beam connected with the first part along a fold line which is distinct from the free upper edge and located at a distance from the free upper edge, and a third part on a plane parallel to said first part and oblique to said second oblique part.

In the claimed invention, the laser beam impinges upon the oblique second part of the metal sheet plate forming the inserts, and the laser beam energy is scattered well below the supporting plane of the fabric being cut. Consequently, the energy of the laser beam is not likely to damage the underside of the fabric on the supporting plane because the impact of the laser beam is necessarily distant from the supporting plane and the supported fabric.

b. *Background of the Invention.*

Pursuant to requests for clarification made in the telephonic examiner interview on May 15, 2009, a brief discussion of the general characteristics of the invention is warranted. The invention is a “slat” for a laser cutting machine table. A laser cutting machine table (a conveyor) is formed from multiple slats juxtaposed parallel to the axis of the conveyor rollers. Each individual slat is similar to a long tray made up of several parts, including a trough and several “inserts” which fit inside of the trough. (A “slat” is the broader name for a trough + inserts). The inserts contained within the trough are bent to form two or three parts: a first part with one free edge, a second part joined to the first part by a fold line which forms an oblique angle, and optionally a third part joined to the second part by another fold line which forms another oblique angle. The inserts are removable within the trough by clipping them into and out of slots in the sides of the trough.

A laser beam perpendicular to the support surface strikes the oblique second part, which is at a distance from the material to be cut on the support surface, and saves the material from damage by the laser beam because of the separation of the material from the impact point of the laser beam. In summary: A table or conveyor comprises many slats. A slat comprises both a trough and many inserts in the trough. The inserts comprise two or three parts, including one or two folds.

In further support, the Applicant respectfully submits the following arguments:

II. Rejection of Claims 28-29 under 35 U.S.C. § 112.

Claims 28-29 were rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. The phrase “non-zero angle” has been replaced with “oblique angle,” as stated in the specification, to overcome this rejection. Accordingly, the rejection has been obviated.

III. Rejection of Claims 2-6, 9-14, and 23-29 under 35 U.S.C. § 112.

Claims 2-6, 9-14, and 23-29 have been rejected under 35 U.S.C. § 112, second paragraph, for being indefinite in their use of the terms “wherein” and “whereby.” As such, each of these claims has been re-written to eliminate this terminology and to incorporate the limitations contained in the clauses elsewhere in the Claims. Claim 2 has been cancelled. This rejection has thus been obviated.

IV. Rejection of Claims 4, 9-10, and 25 under 35 U.S.C. § 112.

Claims 4, 9-10, and 25 have been rejected under 35 U.S.C. § 112, sixth paragraph, for improper use of the word “means.” Each of these claims has been re-written to eliminate the phrase “via means which allow them to be disassembled” and replace it with “via tenons on the inserts capable of being inserted into openings within the support trough.” This rejection has thus been obviated.

V. Rejection of Claims 5-6, 11-14, and 26-27 under 35 U.S.C. § 112.

Claims 5-6, 11-14, and 26-27 have been rejected under 35 U.S.C. § 112, second paragraph, for indefinite use of the terms “the assembly of the lugs in the corresponding openings taking place elastically and by clipping” and “a material void over a maximum area compatible with maintaining the rigidity of the said insert.” These phrases have been replaced with the following, more concise phrases contained in the specification: “the assembly of the lugs in the corresponding openings taking place by clipping” and “a material void with a maximum area no greater than that which will maintain the rigidity of the said insert spanning the area of the void.” This rejection has thus been obviated.

VI. Rejection of Claims 3 and 24 for Insufficient Antecedent Basis.

Claims 3 and 24 stand rejected for insufficient antecedent basis for the limitations “distance e and distance d.” Claim 3 now depends directly from Claim 28, and both Claims 3 and 24 have been amended to state “having a distance e separating the plane of the support strip and the plane of the third part, and said distance e is greater than or equal to a distance d between two juxtaposed inserts.” This rejection has thus been obviated.

VII. Rejection of Claims 2-6 and 9-14 and 28 under 35 U.S.C. § 103 as Obvious over EP ‘080 in View of *Anderson* and Claims 23-27 and 29 as Obvious over *Anderson* in view of EP ‘080.

Claims 2-6, 9-14, and 23-29 stand rejected under 35 U.S.C. § 103(a) in view of the Cited References. In combination, the Cited References do not teach each and every limitation of the claimed invention, as amended, and as such, do not render it obvious. “To establish a prima facie case of obviousness of a claimed invention all the claimed limitations must be taught or suggested by the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 44, 496 (C.C.P.A. 1970); *see KSR Int’l. Co. v. Teleflex, Inc.*, 550 U.S. ___, 127 S.Ct. 1727 (2007); *see also* MPEP 2142.

The Cited References fail to teach or suggest an insert which is: **(1) a folded, thin sheet metal plate** with **(2) a first part forming a free upper edge defining a support plane** for the product to be cut. The first part must be connected **(3) by a fold line** to a second oblique part, **(4) the free upper edge defining the support plane is distinct from and at a distance from the fold line** between the first and second oblique part. The second oblique part must also be **at a distance from and distinct from the free upper edge**. Limitations (1) through (4), contained

in independent Claims 28 and 29 are not taught or suggested by either of the Cited References. Likewise, neither of the Cited References teach a third part as claimed in Claim 28.

With regard to limitation (1) above (the insert is a folded, thin sheet-metal plate), the Examiner does not point to these limitations in either of the Cited References, and indeed, such a structure is neither taught nor suggested in either of the Cited References. EP '080 teaches what appear to be solid, beveled "wedges," with no folds, and *Anderson* likewise teaches no folding of plates.

With regard to limitation (2) above (the free upper edge of the first part defines a "support plane" for the product to be cut), the Examiner states that EP '080 teaches that a "workpiece is supported on a knife-edged support." Thus, the Examiner is equating the support plane formed by the first part of Claim 28 with the tips of the knife-edged supports of EP '080. However, Claim 28 is specific that the first part must have a fold at one end, and a free upper edge at the other end. The free upper edge must form the support plane. Assuming that EP '080 even has a "first part," the upper portion is not "free," rather, it is integrally formed with the angled portion. Even arguing that the "bottom" of the "first part" (the non-angled portion) of EP '080 formed the free edge, it is not the "upper" edge of the insert, as dictated by the claim, and does not form a support plane, as also dictated by the claim.

Further, Claims 28 and 29 emphasize that the opposed faces of the free upper edge are parallel to each other and perpendicular to the support plane. The opposed "faces" of the "supports" of EP '080 form *intersecting* planes. The distance from the fold line is the feature that causes the laser beam to be scattered below the underside of the supported fabric.

Likewise, the angled knife-edge of the support of EP '080 does not meet the claimed limitations (3) above, (a first part connected **by a fold line** to a second oblique part). The "fold line" limitation is not discussed at all by the Examiner with regard to Claim 28, and indeed EP '080 teaches no fold line (or doubling or bending of parts) between the first part and the second oblique part.

The Cited References also do not teach or suggest the claimed limitations (4) above (the free upper edge defining the support plane is "distinct from" and "at a distance from" the fold line between the first and second oblique part. The second oblique part must also be "at a distance from" and "distinct from" the free upper edge). The bevel of EP '080 which forms an angle with respect to the straight side of the knife-edged support cited by the Examiner is structurally different from these claim limitations, and also functions differently than the folded first part and second oblique part of the present invention.

First, the folding of the strip to form the first and second parts allows *distance* between the support plane and the oblique surface that redirects the angle of the incoming laser beam. This configuration always separates the supported object (fabric) at least a minimum distance from a deflected laser beam. By contrast, the solid support disclosed in the prior art EP '080 reference does not always separate the supported object (fabric) at least a minimum distance from a deflected laser beam. In fact, if a laser beam were to hit very close to the tip of the "support" of EP '080, the laser beam would deflect directly below and damage a supported object. Deflection of the laser beam directly below the supported object is the very problem solved by the configuration of the claimed invention. In the claimed invention, the laser beam

will never deflect closer to the supported object than the distance between the support end and the fold.

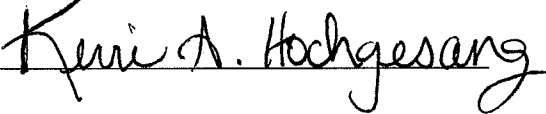
Second, and as can be seen in better detail in Figure 9 of the specification of the present invention, the folding arrangement of the thin metal plate inserts allows them to be placed together in closer proximity than the knife-edged supports of EP '080, because the second oblique part of each insert can be placed directly underneath the vertical plane of the first part, if desired, to achieve optimal deflection of a laser beam. Such a configuration is not possible with the supports of EP '080 because they are solid.

Therefore, because EP '080 in combination with *Anderson* fail to teach or suggest each and every element of Claims 28 and 29 of the present invention, they do not render these Claims obvious under 35 U.S.C. § 103(a). Accordingly, Applicant requests the allowance of Claims 28 and 29 and all claims depending therefrom.

A favorable action and an early issuance of the case are earnestly solicited. The Director is hereby authorized to change any additional fees or credit overpayment to deposit account 024300. If any additional fees are due in connection with the filing of this Amendment or the accompanying papers, such as fees under 37 C.F.R. §§1.16 or 1.17, please charge the fees to SGR Deposit Account No. 02-4300, Order No. 041206.034. If an additional extension of time under 37 C.F.R. §1.136 is necessary that is not accounted for in the papers filed herewith, such an extension is requested. The additional extension fee also should be charged to SGR Deposit Account No. 02-4300, Order No. 041206.034. Any overpayment can be credited to Deposit Account No. 02-4300, Order No. 041206.034.

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Respectfully Submitted,



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